

REMARKS

Claims 2 and 6-12 are pending in this application. By this Amendment, claims 2, 6, 10, 11 and 12 have been amended and claim 1 has been canceled. Claims 2, 6 and 10 are independent. Reconsideration of the application is respectfully requested.

I. Amendment

Support for the amendments to claims 2 and 6 can be found in the specification at, for example, page 5, lines 26-28 and page 6, lines 15 and 16. Claims 11 and 12 have been amended to depend from claim 10. Thus, no new matter is added.

Entry of the amendments is proper under 37 CFR §1.116 because the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration as the amendments amplify issues previously discussed throughout prosecution; and (c) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

II. The Claims Define Patentable Subject Matter

The Office Action rejects claims 1, 2 and 6-12 under 35 U.S.C. §103(a) over U.S. Patent Publication No. 2002/0038732 to Sugiura et al. (Sugiura) in view of U.S. Patent No. 7,130,205 to Peng and further in view of Japanese Patent Publication No. 2003-235252 to Tsuchiya. This rejection is respectfully traversed.

Independent claim 10 recites a controller that "changes a number of phases of operation of the voltage converter in accordance with a value equivalent to power passing through the voltage converter," "each of the phases in the voltage converter handles an alternating current and has a different phase shift with respect to the other phases," and "the change of the number of phases is conducted in a synchronized manner." Independent claims

2 and 6 recite similar subject matter. The applied references fail to teach or render obvious the recited features of independent claims 2, 6 and 10.

A. The Recited Changes of Phrases

Independent claim 10 recites a controller that "changes a number of phases of operation of the voltage converter in accordance with a value equivalent to power passing through the voltage converter," and independent claims 2 and 6 recite similar subject matter.

The Office Action relies on elements 5 and 6 for corresponding with the recited controller that changes a number of phases of operation. The Office Action asserts that a desired output is "the same thing" as an actual output. This assertion is improper. For example, a user may desire an output of 100, and yet the converter may only be actually supplying 75. In such a case, the recited controller and asserted sensors 5 and 6 would clearly differ. More specifically, Tsuchiya would base its control on the desired output of 100, while the present application would base the control on the actual power output of 75. In this example, the actual power output is different from the desired output. Thus, Tsuchiya fails to teach or render obvious a controller that changes a number of phases of operations of the voltage converter in accordance with a value equivalent to power passing through the voltage converter. Sugiura and Peng fail to cure the deficiencies of Tsuchiya.

B. The Recited Phases of the Voltage Converter

Independent claims 2, 6 and 10 recite that each of the phases in the voltage converter handles an alternating current and has a different phase shift with respect to the other phases.

The Office Action relies on col. 3, lines 46-49 of Peng for corresponding with the recited voltage converter. However, the converter of Peng includes DC-DC converters, AC-AC converters, converters performing AC-DC conversion and invertors performing DC-AC conversion. See col. 3, lines 41-49 of Peng. The converter of Peng is merely capable of handling various types of current. However, the converter of Peng fails to disclose that the

converter has a different phase shift with respect to other phases. Accordingly, Peng fails to teach or render obvious each of the phases in the voltage converter handles an alternating current and has a different phase shift with respect to the other phases. Sugiura and Tsuchiya fail to cure the deficiencies of Peng.

C. The Recited Synchronized Changes of The Number of Phases

Independent claims 2, 6 and 10 recite that the change of the number of phases is conducted in a synchronized manner.

The Office Action merely assumes that any control method would conduct the phase changes in a synchronized manner. However, the Office Action fails to cite any references that teach this feature.

If a controller does not change the number of phases in a synchronized manner, the load power of the system might exceed in some periods the maximum power that the converter can provide, so that a serious problem may occur in the fuel cell or in the system. The present application prevents this problem. Sugiura fails to teach or render obvious the change of the number of phases is conducted in a synchronized manner. Peng and Tsuchiya fail to cure the deficiencies of Sugiura.

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Accordingly, the applied references fail to teach or render obvious the recited features of independent claims 2, 6 and 10.

The dependent claims are patentable at least due to their dependence on allowable independent claims 2, 6 and 10 and for the additional features they recite.

Accordingly, withdrawal of the rejection of the claims is respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 2 and 6-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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